PAVLICEK, Miroslav

The ignition temperatures of vanadium catalysts. Sbor pal vod VSChT 4 no.1:135-152 '60. (EEAI 10:9)

1. Katedra procesu a aparatu, Vysoka skola chemicko-technologicka, Praha.

(Vanadium) (Catalysts)

DEYL, Zdenek; PAVLICEK, Miroslav; ROSMUS, Jan

Paper chromatography in the centrifugal field. Chem listy 57 no. 5: 479-493 My '63.

1. Ustredni vyzkumny ustav potravinarskeho prumyslu, Praha a Katedra automatizace, Vysoka skola chemicko-technologicka, Praha.

PAVLICEK, R

COUNTRY : Czechoslovakia C-2
CATEGORY :

ABS. JOUR. : RZKhim., No. 20 1959, No. 71492

AUTHOR : Sekera, A.; Pavlicek, R.; Vrba, C.
INST. : Not given
TITLE : A Study of Local Anesthetics. Article IX. Synthesis of Some New β-Alkoxyethoxy-carbanilates and of Aminated β-Alkoxyethoxycinchoninmides.
ORIG. PUB. : Bull Soc chim. France, 1959, #2, 401-404 *
ABSTRACT : In order to determine the relation between the chemical structure and local anesthetic activity, following substituted carbanilates were synthesized: $RC_6H_4NHCOOCH_2CH_2N(C_2H_5)_2$ (Ia-e, here and subsequently a: R = o- $CH_3OCH_2CH_2O$, b: R = m- $CH_3OCH_2CH_2O$, c: R = o- $C_2H_5OCH_2CH_2O$, d: R = m- $C_2H_5OCH_2CH_2O$, and e: R = p- $C_2H_5OCH_2CH_2O$), analogues of sevicaine bases (II a-b), and also sevicaine (IIc-base). Among I-chlorides the most active were found to be Ia and Ic chlorides, which had activities (surface

CARD: 1/9

* Ceskosl. farmac., 1958, 7, #8, 448-450.

22

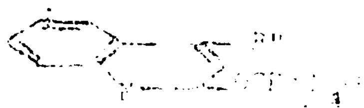
COUNTRY : Czechoslovakia [illegible]
CATEGORY :

ABS. JOUR. : RZhKhim., No. 20 1959, No. 71492

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT :



I a: R' = [illegible]
b: R' = [illegible]
c: R' = [illegible]
[illegible]

[illegible] ([illegible]% yield, b.p. 93°) was synthesized by reacting $(CH_3)_2SO_4$ with $HOCH_2CH_2Cl$. The latter when heated for 15 hours with NaI and acetone, gives $CH_3OCH_2CH_2I$ (50% yield, b.p. 127-13[illegible]). The reaction of $SOCl_2$ with $C_2H_5OCH_2CH_2OH$ in the presence of dimethylaniline yields

CARD: 3/9

13

COUNTRY : Czechoslovakia G-2

ABS. JOUR. : RZhKhim., No. 20 1959, No. 71492

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : $C_2H_5OCH_2CH_2Cl$ (73% yield, b.p. 105-108°), which when heated for 6 hours with NaI in alcohol gives $C_2H_5OCH_2CH_2I$ (44% yield, b.p. 153°). $CH_3OCH_2CH_2I$ and $C_2H_5OCH_2CH_2I$ form $CH_3CONHC_6H_4R$ (III a-e) when boiled with $CH_3CONHC_6H_4ONa$. Compounds III were hydrolyzed (18% HCl) into β-alkoxyethoxyanilines, $H_2NC_6H_4R$ (IV a-e), which may be transformed into isocyanates, RC_6H_4NCO (V a-e), by reaction with an excess of $COCl_2$ in toluene. The following substances were synthesized: (listed are the compound, % yield and b.p. in °C/mm): IIIa, 66, 124/0.08; b, 35,

CARD: 4/9

cipitated I-chloride. If one fails to obtain chloride cry tals the toluene solution may be extracted with 10% HCl. The extract

CARD: 5/9

COUNTRY : Czechoslovakia [illegible]
CATEGORY :

ABS. JOUR. : [illegible] 71492

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : may be then rendered alkaline with a solution [illegible]. The base may be finally extracted with ether and transformed into a [illegible]. Listed below are % yield of I [illegible] picrate (from alcohol): [illegible] was reduced by the action of powdered Na and [illegible] was thus obtained, [illegible] yield, [illegible]. The [illegible] of reduction

CARD: [illegible]/9

CATEGORY :

ABS. JOUR. : RZKhim., No. 20 1959, No. 71492

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : and VI yield depend to a large extent on the degree of comminution of Na. Upon the reduction with $LiAlH_4$ in ether, $(C_2H_5)_2NCH_2CN$ gives VI with a 54% yield, b.p. 61-63/25 mm. Catalytic reduction of $(C_2H_5)_2NCH_2CN$ in the presence of various catalysts, at pressures ranging from 20 to 100 atm and at 20-80°C failed to produce any VI. 0.18 mole of 2-oxycinchonine [synthesized from acetylisatin with a 57% yield, m.p. 325° (not corrected)] was treated for 3 hours with 0.5 moles of PCl_5, raising the bath temperature gradually from 120° to 150°. The resulting

CARD: 7/9

25

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PAVLICEK, Z.

Newly developed types of Geiger-Mueller counters in Czechoslovakia. Josef Silar and Zdeněk Pavlíček. *Jaderná energie* 6, 240–3(1960).—Commercially available counters are listed and described. The fundamental characteristics of halogen counters and high-voltage counters are compared. H. Newcombe

PAVLICEK, Zdenek, MUDr.

Echinococcus of the liver in a six-year-old boy. Vnitr. lek., Brno 1 no.3:194-197 Mar 55.

1. Z chirurgickeho oddeleni OUNZ v Prostejove--Prednosta MUDr. Mil. Hel, Prostejov, Krapkova 12.

(LIVER, diseases
echinococcosis in 6-year-old boy.)
(ECHINOCOCCOSIS
liver in 6-year-old boy.)

PAVLICEK, Z.

"Centralization and Combination of Power Supply in the USSR", p. 83 (ENERGETIKA, Vol. 3, No. 3, March 1953, Praha, Czechoslovakia).

SO: Monthly List of East European Accessions, LC, Vol. 3, no. 5, May 1954, Unclassified

PAVLICEK, Z.

"General Plan for Development of the Czechoslovak Power Industry." p. 241. Praha, Vol. 4, no. 4, Apr. 1954.

SO: East European Accessions List, Vol. 3, No. 9, September 1954, Lib. of Congress

PAVLICEK, Z.

"General Plan for the Development of Czechoslovak Power Production." p. 361,
(Za Socialistickou Vedu A Techniku, Vol. 3, no. 9, Sept. 1953, Praha)

SO: Monthly List of East European Accessions, Vol. 3, No. 3 /Library of Congress, March 1954, Uncl.

PAVLICEK, Z.

Over-all plan of development of the power economy of the Czechoslovak Republic.

P. 18, Vol 4, no. 9, May 1955

SOURCE: Monthly list of East European Accessions, (EEAL), Lc, Vol. 5, No. 3, March 1956

PAVLICEK, Z.; SCHULZ, F.

Ten years of nationalized electric power industry in Czechoslovakia. p.177. ENERGETIKA. (Ministerstvo paliv a energetiky. Hlavni sprava elektraren) Praha. Vol. 5, No. 5, May 1955

SOURCE: East European Accessions List, (EEAL), Library of Congress, Vol. 4, No. 12, December 1955

PAVLICEK, Z. ; KALOUS, V.

"Electrophoretic preparative method for protein separation." p. 409.

CHEMICKE LISTY. Praha, Czechoslovakia, Vol. 53, no. 4, Apr. 1959.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 8, August, 1959.
Uncl.

CZECHOSLOVAKIA

KALOUS, V.; PAVLICEK, Z.

Dept. of Physical Chemistry, Karlova Univ., Prague (for both)

Prague, Collection of Czechoslovak Chemical Communications, No 2, Feb 1966, pp 695-702

"A contribution to the study of haptoglobin-haemoglobin interaction."

L 17981-66 EWP(t) IJP(c) JD
ACC NR: AP6009976

SOURCE CODE: CZ/0008/65/000/012/1415/1425

AUTHOR: Pavlicek, Zdenek

ORG: Department of Physical Chemistry, Faculty of Natural Sciences, Charles University, Prague (Katedra fysikalni chemie, Prirodovedecka fakulta, Karlova universita)

68
B

TITLE: Hydrophobic bonds in proteins

SOURCE: Chemicke listy, no. 12, 1965, 1415-1425

TOPIC TAGS: protein, biochemistry, chemical bonding, chemical stability, hydrocarbon, temperature dependence, free energy water, thermodynamic property

ABSTRACT: Up to now there has been no direct proof of the existence of hydrophobic bonds. These bonds are considered to cause certain reactions of proteins with low molecular weight compounds. The influence of temperature, and of various solvents upon the characteristics of hydrophobic bonds is discussed. Thermodynamic properties of water, and of various hydrocarbon solutions are described. The standard free energy of the formation of a hydrophobic bond is discussed. The stability of proteins that have a hydrophobic bond is discussed. . Hydrophobic bonds between chains contnining non-polar groups are described. Specific behavior of hydrophobic bonds in albumins is reviewed. A specific structure of a hydrocarbon is determined when hydrogen is present in the molecule; hydrophobic interactions can comply with

Card 1/2

2

L 17981-66
ACC NR: AP6009976

many structural formulas. Orig. art. has: 3 figures, 5 formulas, and 1 table. [JPRS]

SUB CODE: 06, 07, 20 / SUBM DATE: none / ORIG REF: 002 / OTH REF: 031

Card 2/2

FAVLICEK, [illegible] KALOUS, V.

Isolation and physicochemical characterization of the [illegible] haptoglobin from the [illegible] fraction. Pt. IV. [illegible] no.8:1841-1851 Ag '64.

1. Institute of Physical Chemistry, Charles University, Prague.

CERNIK, Oldrich; GASEK, inz.; STRIBRNY, A.; NOVOTNY, V.; ROUCKA, inz.; JERIE, dr.; BENDA, O.; HINKE, dr.; HOMOLA, F., inz.; SPETL, doc., inz., dr.; ZAK, inz.; ZEMAN, inz.; PAVLICEK, Z., inz.; VESELY, B., inz.; KUCERA, Fl., inz.; VALD, V.

Main trends and goals in increasing the utilization of fuels and energy in the national economy in long range planning up to 1970. Energetika Cz 12 no.12:Suppl.:Energetika 11 no.12:1-14 '62.

1. Ministr paliv a energetiky (for Cernik).

OSOLSOBE, J., dr., inz.; HOMOLA, F., inz.; KUCERA, F., inz.; PAVLICEK, Z., inz.; KUBINEC, R., inz.; CABELKA, J., akademik; SIMURDA, L. inz.; JUZA, J., dr., inz.; KRAL, V., inz.; POSPISIL, J., inz.; DOLEZAL, R., prof., dr., inz.; ZEMAN, Vl., inz.; LIMPOUCH, B. inz.; SVAB, V., dr., inz.; LASKA, L., inz.; JAHODAR, V., inz.; KOHN, F., inz.

Development of power installations over a long period of time; summary of reports made at the 7th Conference of Power engineers in Bratislava, September 6-8, 1960. Energetika Cz 11 no.3: Suppl: Energetika 11 no.3:1-23 '61.

1. Chlen korespondent Ceskoslovenske akademie ved (for Osolsobe).

PAVLICEK, Z.; KALOUS, V.; KOVARIKOVA, J.

Relation of the M-2 components of the serum to the haptoglobin.
Coll Cz Chem 27 no.7:1593-1597 Jl '62.

1. Institut fur physikalische Chemie, Karlsuniversitat, Prag.

PAVLICEK, Zdenek; KALOUS, Vitez

Blood haptoglobin. Chem listy 56 no.11:1324-1345 N '62.

1. Katedra fyzikalni chemie, Prirodovedecka fakulta, Karlova universita, Praha.

POSTLER, L., inz.; PAVLICEK, Z., inz.

The 14th meeting of the Electric Power Committee in Geneva, 1956. Energetika Cz 7 no.2:121-123 F '57.

PAVLICEK, Z.; WDOWKA, K.

Traumatic hemobilia. Rozhl. chir. 41 no.2:135-138 F '62.

1. Chirurgicke oddeleni OUNZ v Prostejove, prednosta MUDr. Mil. Hel.

(BILIARY TRACT wds & inj) (BILE)

SILAR, Josef; PAVLICEK, Zdenek

New types of Geiger-Muller counters in Czechoslovakia. Jaderna energie 6 no.7:240-243 Jl '60.

1. Tesla - Liberec, vyzkumny zavod Premyslenl u Prahy.

PAVLICEK, Zdenek; KREJCI, Jaroslav

Diastatic perforation of the colon. Rozhl. chir. 40 no.8:569-574 Ag '61.

1. Chirurg. oddeleni OUNZ Prostejov, prednosta dr. M. Hel Patologicko-anatomicke oddeleni, prednosta dr. Jar. Krejci.

(COLON dis)

KALOUS, V.; PAVLICEK, Z.

Isolation of α_2-globulin fraction and its relation to the Brdicka filtrate reaction. Coll Cz Chem 25 no.12:3380-3384 D '60.

1. Institut fur physikalische Chemie, Karlsuniversitat, Prag.

(Globulin) (Brdicka reaction)

PAVLICHVIC, I.

Determining distance by [illegible]. . 7.
(GLASNIK, Vol. 11, No. 2, Feb. 1957

SO: Monthly List of East European Accessions (EAIL) LC Vol. , No. 12, Dec. 195
Uncl.

PAVLICHEK, K.I.

Trichogramma in controlling the cabbage butterfly. Zashch. rast. ot vred. i bol. 7 no.10:52 O '62. (MIRA 16:6)

(Trichogramma)
(Cabbageworms--Biological control)

15-57-7-16345

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 7, p 250 (USSR)

AUTHORS: Pavlichenko, A. A., Bazlov, M. N., Galonskiy, F. F.

TITLE: Results of Heat Application (Vystupleniya v preniyakh)

PERIODICAL: V sb: Metody uvelicheniya nefteotdachi plastov. Moscow, Gostoptekhizdat, 1955, pp 86-88

ABSTRACT: Bibliographic entry

Card 1/1

PAVLICHENKO, A. A., A. I. OSTROVSKIY and [illegible], A. I.

"New Methods [illegible] the [illegible] Bore Holes."

report presented at the [illegible] of Metallurgy[illegible], [illegible]
(Vest. AN SSSR, No. [illegible], 1[illegible], pp. [illegible])

PAVLICHENKO, A.K., Cand Med Sci -- (diss) "~~Concerning~~ the value of a cold probe in the diagnosis of coronary insufficiency." Khar'kov, 1959, 8 pp (Khar'kov State Med Inst) 200 copies (KL, 33-59, 121)

PAVLICHENKO, A.M., inzh.

Investigating the performance of internal combustion engines during high temperature cooling. Trudy NIIVTa no.10:3-15 '62. (MIRA 16:6)

(Internal combustion engines—Cooling)

KUZ'MENKOV, O.P., inzh.; PAVLICHENKO, A.M.; KHITUSHKO, Ye.V.

Comparative testing of an apparatus for measuring effective power on the ST-216 motorship. Trudy NIIVTa no.10:52-56 (MIRA 16:6)

(Ship propulsion--Testing)
(Dynamometer)

PAVLICHENKO, A.M., inzh.; CHERNYSHOV, F.M., dotsent, kand. tekhn. nauk; KHITUSHKO, Ye.V., inzh.

Full-scale testing of the dredger "De-Obskii-16" and recommendations on the choice of operating conditions. Trudy NIIVTa no.10:16-24 '62. (MIRA 16:6)

(Dredging machinery—Testing)

PAVLICHENKO, A.M., inzh.; KHITUSHKO, Ye.V.

Results of tuning-up tests of the Ch10,5/13 experimental diesels. Trudy NIIVTa no.10:46-51 '62. (MIRA 16:6)

(Marine diesel engines—Testing)

L 41343-66 EWT(d)/EWT(m)/EWP(t)/T-2 RH

ACC NR: AR6017324 (N) SOURCE CODE: UR/0273/66/000/001/0030/0030

AUTHOR: Pavlichenko, A. M.

TITLE: New 3D6N-150 engines

SOURCE: Ref. zh. Dvigateli vnutrennego sgoraniya, Abs. 1.39.214

REF SOURCE: Proizv.-tekhn. sb. Tekhn. upr. M-va rechn. flota RSFSR, no. 3(47), 1965, 86-89

TOPIC TAGS: internal combustion engine, diesel engine, turbine engine, marine engine/3D6N-150 marine ~~diesel~~ engine

ABSTRACT: A six-cylinder 3D6N-150 turbine marine diesel-engine is described. N_e = 150 hp at 1000 rpm; ε = 14; M_{cr} = 239 kgm at 800 rpm; S/D = 180/150 mm. [KP]
[Translation of abstract]

SUB CODE: 21/

Card 1/1 11b UDC: 621.431.74

PAVLICHENKO, A.M., inzh.

Investigating the performance of a diesel engine with high-temperature cooling. Trudy NIIVTa no.12:22-98 '62. (MIRA 16:3)
(Marine diesel engines—Cooling)

PAVLICHENKO, A.M., inzh.; KHITUSKO, Ye.V.

Investigating the operation of the 4SB-350 engine. Trudy NIIVTa no.10:25-29 '62. (MIRA 16:6)

(Marine diesel engines)

SERVIROG, E.B., inzh.; PAVLICHENKO, A.M.; KHITUSHKO, Ye.V.

Results of propulsion trials of dry cargo motorships of 680-ton load capacity. Trudy NIIVTa no.10:30-38 '62. (MIRA 16:6)

(Ship trials)
(Ship propulsion—Testing)

S/273/63/000/002/003/010
A052/A126

AUTHOR: Pavlichenko, A.M.

TITLE: Investigation of internal combustion engine operation at high-temperature cooling

PERIODICAL: Referativnyy zhurnal, otdel'nyy vypusk, 39. Dvigateli vnutrennego sgoraniya, no. 2, 1963, 13, abstract 2.39.89 (Tr. Novosib. in-ta inzh. vodn. transp., no. 10, 1962, 3 - 15)

TEXT: Experimental studies in the field of high-temperature cooling of internal combustion engines are reviewed and the cooling systems used are described. The advantages of high-temperature cooling are pointed out in particular in the combustion of sulfurous fuels in diesels. A contradictory character of some experimental data is pointed out and the conclusion is drawn on the necessity for continuing work in this field. There are 27 references.

[Abstracter's note: Complete translation]

Card 1/1

KARGIN, V.A., akademik; SOGOLOVA, T.I.; PAVLICHENKO, N.P.

Some features of stress relaxation in isotactic crystalline polypropylene. Dokl. AN SSSR 147 no.2:407-409 N '62. (MIRA 15:11)

1. Institut neftekhimicheskogo sinteza AN SSSR i Fiziko-khimicheskiy institut im. Karpova.
(Polypropylene crystals) (Strains and stresses)

KARGIN, V.A.; KABANOV, V.A.; PLATE, N.A.; PAVLICHENKO, N.P.

Plasticization of block copolymers of acrylic acid and styrene. Vysokom. soed. 2 no. 3:433-440 Mr '60. (MIRA 13:11)

1. Moskovskiy gosudarstvennyy universitet, Khimicheskiy fakul'tet.
(Acrylic acid) (Styrene) (Polymers)

KARGIN, V.A.; [illegible], T.I.; [illegible], N.F.

Relaxation [illegible]nomena in [illegible] polyolefins. [illegible]
4 no.5:[illegible] '62. [illegible]

1. [illegible] neftekhimicheskogo [illegible] AN [illegible]
institut imeni L.Ya.Karpova.
(Olefins) (Polymers)

S/020/62/147/002/018/021
B101/B186

AUTHORS: Kargin, V. A., Academician, Sogolova, T. I., Pavlichenko, N.P.

TITLE: Peculiarities of stress relaxation in isotactic crystalline polypropylene

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 147, no. 2, 1962, 407-409

TEXT: Films of crystalline polypropylene were stretched by 8% at 140°C, and the stress-versus-time curve was plotted. Within the first five minutes the stress fell rapidly from ~ 120 to ~ 30 kg/cm^2, followed by a second drop in stress after 2.5-3.5 hrs. An investigation of the deformed surfaces and cross sections of the samples showed cracking perpendicular to the direction of stress and formation of larger spherulites than in the case of unstretched film. No cracking occurred with amorphous polypropylene. Conclusions: The first drop in stress is due to fast relaxation processes such as generally occur in polymers. Thereupon supermolecular structures and cracks are formed which reduce the actual cross section and cause the second drop in stress. In the formation of irreversible deformations, structural elements

are displaced under the action of forces exceeding the strength of the material. There are 4 figures.

ASSOCIATION: Institut neftekhimicheskogo sinteza Akademii nauk SSSR (Institute of Petrochemical Synthesis of the Academy of Sciences USSR); Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physicochemical Institute imeni L. Ya. Karpov)

SUBMITTED: July 20, 1962

L 35435-65 EPF(c)/EPR/EWT(d)/EWT(m)/T/EWP(w) Pc-4/Pr-4/Ps-4 EM/RM/WW

ACCESSION NR: AP5008362 S/0190/65/007/003/0394/0396

AUTHORS: Kargin, V. A.; Sogolova, T. I.; Pavlichenko-Krasnikova, N. P.

TITLE: On the characteristics of irreversible deformations in crystalline polyolefins

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 3, 1965, 394-396

TOPIC TAGS: polyolefin, deformation mechanism, stress relaxation, polypropylene, polymer, polyisobutylene, defect formation, material failure / MIN 8 microscope, MIM 8M microscope

ABSTRACT: An experimental study of the relaxation phenomena in crystalline polyolefins under stress and at high temperatures was conducted. Specimens of polypropylene were melted at 180C, and films ≈ 20μ thick were held for various periods at 140C. They were then studied under polarized light with an MIN-8 microscope. The spherulites were found to increase in size (reaching 700-800μ in 4 hours) and to acquire numerous defects. Films 700μ thick studied under a metallographic microscope MIM-8M showed surface spherulites with radial cracks upon being heated at 140-160C. No surface spherulites were found in specimens heated at lower temperatures, but all the specimens held at 60-160C acquired

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L 35435-65

ACCESSION NR: AP5008362 3

crystal-like formations. The study showed that the irreversible deformation is brought about by the translocation of large structural elements and that tension cracks lead to the failure of crystalline polypropylene. Stress relaxation was found to be complicated by structural changes leading to the formation of defects. Introducing polyisobutylene into polypropylene diminished the number of cracks. (Abstracter's note: original article includes references to 5 figures, none of which are shown).

ASSOCIATION: Institut neftekhimicheskogo sinteza AN SSSR im. A. V. Topchiyeva (Institute of Petrochemical Synthesis, AN SSSR); Fiziko khimicheskiy institut im. L. Ya. Karpova (Physico-chemical Institute)

SUBMITTED: 04Apr64 ENCL: 00 SUB CODE: OC

NO REF SOV: 005 OTHER: 000

Card 2/2

37141

S/190/62/004/005/018/026
B110/B108

15.1001
11.2210

AUTHORS: Kargin, V. A., Sogolova, T. I., Pavlichenko, N. P.

TITLE: Relaxation effects in crystalline polyolefins

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 5, 1962, 738-742

TEXT: The behavior of polyethylene and polypropylene under periodic force action was investigated over a wide range of temperatures. The tests were made in an apparatus devised by Aleksandrov and Gayev (Yu. S. Lazurkin, Zh. tekhn. fiziki, 9, 1261, 1939). A force was applied at frequencies of 1, 10, 100, and 1000 cycles per minute, temperature was varied from -80 to 140°C. Under such conditions, polypropylene was found to possess a broad relaxation spectrum throughout the range from T_v (vitrification temperature) to T_f (flow temperature). An attempt was made to ascertain inhowfar the results obtained depended on the polymer structure. For this purpose, the authors investigated: (1) polypropylene (200°C, 166 kg/cm^2); (2) hard

Card 1/3

Relaxation effects in crystalline ... S/190/62/004/005/018/026
B110/B108

account when using articles made of crystalline polymers. There are 2 figures and 1 table.

ASSOCIATION: Institut neftkhimicheskogo sinteza AN SSSR (Institute of Petrochemical Synthesis AS USSR); Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physicochemical Institute imeni. L. Ya. Karpov)

SUBMITTED: April 12, 1961

Card 3/3

PAVLICHENKO, P.I. (Odessa); DEL RIO, B., kandidat tekhnicheskikh nauk (Odessa).

Junction schedule for the movement of export and transfer trains. Zhel.dor.transp. 37 no.3:80-81 Mr '56. (MLRA 9:5)

1. Nachal'nik otdela ekspluatatsii otdeleniya dorogi (for Pavlichenko).

(Railroads--Traffic)

ACCESSION NR: AP4015555 S/0089/64/016/002/0099/0103

AUTHOR: Adamov, I. Yu.; Dushin, L. A.; Kononenko, V. I.; Pavlichenko, O. S.

TITLE: Microwave emission of an electrodeless induction discharge

SOURCE: Atomnaya energiya, v. 16, no. 2, 1964, 99-103

TOPIC TAGS: microwave plasma emission, electrodeless plasma discharge, hyperthermal plasma emission, betatron emission mechanism

ABSTRACT: The purpose of the present work is the verification of the assumption made by other authors concerning the possibility of a hyperthermal microwave emission by a plasma of an electrodeless induction discharge. The discharge was in hydrogen, the variable magnetic field was created by a one-layer coil, 11 cm in diameter, 20 cm long connected to a 18.6 μf capacitor. The period of oscillation was 8.6 μ sec. Magnetic probes were used for measuring the magnetic field in and out of the plasma. Both the microwave and the X-ray

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ACCESSION NR: AP4015555

emission were recorded. A correlation of both types of emission was confirmed. The microwave emission appears when there is a critical plasma density for a given frequency. The microwave power emitted is in several orders of magnitude higher than that which corresponds to thermal emission. "The authors are grateful to Ya. F. Volkov, V. A. Suprunenko, V. T. Tolok, and Ya. B. Faynberg for discussions and to L. V. Brzhechko for help with the work." Orig. art. has: 7 figures.

ASSOCIATION: none

SUBMITTED: 22Apr63 DATE ACQ: 12Mar64 ENCL: 00

SUB CODE: PH, GE NO REF SOV: 003 OTHER: 003

Card 2/2

PAVLICHENKO, O.S.; DUSHIN, L.A.; NIKOL'SKIY, I.K.; BRZHECHKO, L.V.

Macroscopic instability of a plasma in a reflex discharge. Zhur. tekh. fiz. 34 no.4:590-596 Ap '64. (MIRA 17:4)

L 27597-65 EWT(1)/EPA(sp)-2/EPA(w)-2/EEC(t)/T/EWA(m)-2 Pz-6/Po-4/Pab-10/Pi-4
IJP(c) AT

ACCESSION NR: AP5003237 S/0057/65/035/001/0056/0061

AUTHOR: Zykov, V.G./ Stepanenko, I.A./ Dushin, L.A./ Nikol'skiy, I.K./ Pavlichenko, O.S./ Tolok, V.T.

TITLE: Spectroscopic investigation of the plasma in colliding bursts

SOURCE: Zhurnal tekhnicheskoy fiziki, v.35, no.1, 1965, 56-61

TOPIC TAGS: plasma interaction, plasma spectral line, charge exchange

ABSTRACT: This paper reports a continuation of work by some of the present authors and others (ZhTF 35,62,1965 /see Abstract AP5003238/) concerning the confinement of plasma injected into a cusp magnetic field. The present work was performed without the magnetic field, and was undertaken to investigate the processes taking place in colliding plasma bursts. Plasma bursts were injected from one or more of four conical plasma guns equally disposed about the periphery of a 20 cm diameter stainless steel tube, and the spectra were observed in both the longitudinal and transverse directions. The time-integrated spectrum was recorded photographically in the range from 2000 to 6000 Å, and the time dependence of the intensity of certain lines was determined with a photoelectric instrument. The plasma bursts had a maximum density

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of 2 x 10^{14} cm^{-3} and the electron temperature was 4 to 4.5 eV. The velocity of the fast component of a bursts was 1.4 x 10^{7} cm/sec; this was followed by a slower "tail". The collision of two plasma bursts led to an increase in the intensity of all spectrum lines and the appearance of lines that were not observed in single bursts. Velocity measurements performed with the photoelectric instrument using the H_β 4861, C I 4371 and C II 4267 lines showed that both the carbon ions and the hydrogen atoms moved more rapidly than the carbon atoms. The presence of excited ions in the plasma burst at a considerable distance from the source is discussed, and it is suggested that these are continually formed by a charge exchange mechanism. The ion temperature was determined from the Doppler broadening of the C II 4267 line. Collision of the plasma bursts was found to be accompanied by an increase of the ion temperature. After brief discussion it is concluded that the strong interaction between plasma bursts observed in this and the previous work can be accounted for by Coulomb interaction. "In conclusion,, the authors express their gratitude to L. V.Brzhechko, A.P.Dolgom and A.A.Kutsyn for technical assistance in performing the work." Orig.art.has: 6 figures.

L 23569-66 EWT(1)/EPF(n)-2/ETC(f)/EWG(m) IJP(c) AT/GS

ACC NR: AT6008850 SOURCE CODE: UR/0000/65/000/000/0198/0206

AUTHOR: Dushin, L. A.; Kononenko, V. I.; Pavlichenko, O. S.; Nikol'skiy, I. K.

ORG: none

55
B+1

TITLE: Bremsstrahlung of a θ-pinch plasma in the infrared spectral region

SOURCE: AN UkrSSR. Magnitnyye lovushki (Magnetic traps). Kiev, Naukova dumka, 1965, 198-206

TOPIC TAGS: bremsstrahlung, plasma pinch, electron temperature, plasma density, IR spectrum

ABSTRACT: The authors review the various methods used for determining the parameters of a plasma from the intensity of Bremsstrahlung. If the receiver design does not permit wavelength adjustment, the absolute intensity of the Bremsstrahlung in the plasma is measured in a definite wavelength range and an independent method is used for determining one of the parameters of the plasma, e. g. the electron temperature, and its variation with time. These data are then used as a basis for determining the plasma density and its variation. The possibilities of using this type of a receiver for plasma diagnosis are discussed. Experiments were conducted which showed that the continuous radiation of a plasma in the near infrared region may be measured simultaneously with the electron temperature to determine the density of the plasma and its

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L 23569-66

ACC NR: AT6008860

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variation with time. The sensitivity of this method may be improved by reducing the band of the preamplifier of the recording system and by making the measurements on a plasma in which slower processes take place since this would allow covering a wider density range. Orig. art. has: 5 figures, 4 formulas.

SUB CODE: 20/ SUBM DATE: 20Oct65/ ORIG REF: 000/ OTH REF: 003

Card 2/2 PB

L 16088-66 EPF(n)-2/EWT(1)/ETC(f)/EWG(m) IJP(c) AT

ACC NR: AP5027660 SOURCE CODE: UR/0051/65/019/005/0674/0679

AUTHOR: Dushin, L. A.; Kononenko, V. I.; Pavlichenko, O. S.; Nikol'skiy, I. K.

ORG: none

TITLE: Damping radiation in the infrared region of the spectrum of plasma under electrodeless induction discharge

SOURCE: Optika i spektroskopiya, v. 19, no. 5, 1965, 674-679

TOPIC TAGS: plasma diagnostics, hydrogen, germanium, photoresistor, IR radiation

ABSTRACT: The authors investigated the damping radiation in the infrared region of the spectrum of an electrodeless induction discharge of hydrogen. The damping radiation in the region of 1.8 - 9.5 mk wave length was registered by a germanium photoresistor operating under the temperature of liquid nitrogen. The density of the plasma was determined based on the results obtained from measuring the temperature of plasma electrons and the intensity of damping radiation. The proposed method could be used for diagnostics of a dense plasma. The authors express thanks to A. F. Plotnikov and G. N. Zhizhin. Orig. art. has: 6 figures and 8 formulas.

Card 1/2 UDC: 537.525.1-15

L 16088-66

ACC NR: AP5027660

SUB CODE: 20 / SUBM DATE: 17Aug64/ ORIG REF: 002/ OTH REF: 004

Card 2/2

L 16466-66 EWT(l)/ETC(f)/EPF(n)-2/EWG(m) IJP(c) DW/AT
ACC NR: AP6005531 SOURCE CODE: UR/0089/66/020/001/0052/0052

AUTHOR: Brzhechko, L. V.; Pavlichenko, O. S.; Shvets, O. M. 62 B

ORG: none

TITLE: Effect of a metal chamber when the diamagnetic probe method is used for measuring plasma parameters

SOURCE: Atomnaya energiya, v. 20, no. 1, 1966, 52

TOPIC TAGS: diamagnetism, plasma physics, ion temperature, plasma measurement

ABSTRACT: A method is proposed for taking account of wall conductivity when measuring the diamagnetism of a plasma enclosed in a metal chamber. It is shown that the metal walls reduce the magnetic flux through the coil surrounding the plasma column by a factor of $1/\chi(r)$ in comparison with the flux which would be measured through the probe if there were no walls, where r is the radius of a turn. The proposed correction formulas were used for calculating the ion temperature of a plasma, and satisfactory agreement was observed between the results and data from

UDC: 533.9

Card 1/2

L 16466-66
ACC NR: AP6005531

spectroscopic measurement of the ion temperature. Orig. art. has: 1 figure, 7 formulas.

SUB CODE: 20/ SUBM DATE: 04Sep65/ ORIG REF: 001/ OTH REF: 002

Card 2/2 mc

L 25505-66 EPF(n)-2/EWT(l)/EWT(m)/ETC(f)/EWG(m) IJP(c) AT/JD (1)

ACC NR: AP6011387 SOURCE CODE: UR/0057/66/036/003/0443/0446

AUTHOR: Shvets, O.M.; Tarasenko, V.F.; Ovchinnikov, S.S.; Brzhechko, L.V.; Pavlichenko, O.S.; Tolok, V.T. 93 B

ORG: none

TITLE: Investigation of high frequency heating of a dense plasma in a metallic chamber

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 3, 1966, 443-446

TOPIC TAGS: plasma heating, ion temperature, cyclotron resonance, magnetic mirror machine, high frequency, hydrogen, helium, argon, helium plasma, hydrogen plasma, plasma charged particle, plasma density

ABSTRACT: This paper appears to be a sequel to an earlier paper by five of the present authors (ZhTF, 35, 1285, 1965). Hydrogen-helium and hydrogen-argon plasmas at pressures in the (1-3) x 10^{-3} mm Hg range with charged particle densities of the order of 10^{14} cm^{-3} were produced in the "Vikhr'" magnetic mirror machine and were heated by ion cyclotron waves which were produced in the vicinity of the magnetic mirror and propagated to the center of the discharge chamber where the magnetic field was weaker and corresponded to the proton cyclotron resonance. The 150 kW oscillator operated at a frequency of 1.82 MHz. The following advantages are claimed for the employed technique (which is not described in any detail in the present paper): the momentum initially imparted to the ion is perpendicular to the external magnetic field

Card 1/3 UDC: 533.9

L 25505-66

ACC NR: AP6011387

and thus does not tend to drive the ion away from the region of the magnetic mirror; the conditions for producing the waves do not deteriorate with increasing plasma size or density; the input impedance is low; and energy can be introduced at two different frequencies if it is desired to heat both the ion and the electron components of the plasma. Regular oscillations at frequencies of the order of 20 kHz of the intensities of spectrum lines were observed at magnetic field strengths close to the proton cyclotron resonance. These oscillations appeared when waves were being excited in the plasma and were due to eccentric rotation of the plasma filament as a whole with respect to the axis of the chamber, as was confirmed by longitudinal observation with two photomultipliers mounted 3 cm from the axis. The ion temperatures were determined from the Doppler broadening of spectrum lines. The temperature of the additional gas (helium or argon) increased sharply as the strength of the magnetic field approached the proton cyclotron resonance value. Argon temperatures as high as 250 eV were observed. Temperatures of various impurity ions were also measured; these temperatures were independent of the mass of the impurity ion. The width of H_β interpreted as Doppler broadening, indicated a much lower temperature for hydrogen atoms than for the various ions. This is ascribed to the short life of a hydrogen atom in the plasma. The temperature of the plasma decreased rapidly with increasing distance from the axis, being down by a factor of 5 at 4 cm from the axis. The ion temperature increased rapidly with increasing high-frequency power, and much higher temperatures could apparently be achieved by increasing the high-frequency power and the magnetic field strength. It is concluded that a dense plasma containing two kinds of ions can be

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ACC NR: AP6011387

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heated by resonance production of ion cyclotron waves in ions of one kind, but that the mechanism of energy transfer between the two different kinds of ions is not understood. Orig. art. has: 3 formulas and 4 figures.

SUB CODE: 20 SUBM DATE: 18Feb65 ORIG. REF: 002

Card 3/3 CC

L 2493-66 EWT(1)/ETC/EPF(n)-2/EWG(m)/EPA(w)-2 LJP(c) AT
ACCESSION NR: AP5020725 UR/0057/65/035/008/1401/1404

AUTHOR: Pavlichenko, O. S.; Dushin, L. A.; Kuznetsov, Yu. K.; Nikol'skiy, I.K.; Adamov, I. Yu.

TITLE: Instability of a plasma discharge with oscillating electrons. 2. Anomalous diffusion of plasma

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 8, 1965, 1401-1404

TOPIC TAGS: plasma instability, plasma oscillation, helium plasma, electric discharge, electron oscillation, electron reflection, plasma diffusion, plasma magnetic field

ABSTRACT: The authors have investigated the stability and anomalous diffusion of the plasma of a high voltage PIG reflex discharge with the apparatus described in the preceding paper (ZhTF, 35, 1394, 1965; see abstract AP5020724). In addition to the measurements described in the preceding paper, measurements were made of the charged particle flux to the wall of the chamber, using a double probe, and the plasma column was observed with a rotating mirror. The charged particle flux at first decreased with increasing magnetic field, but at a certain critical field strength the flux began to increase with increasing field strength. The critical

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L 2493-66

ACCESSION NUR: AP 5020725

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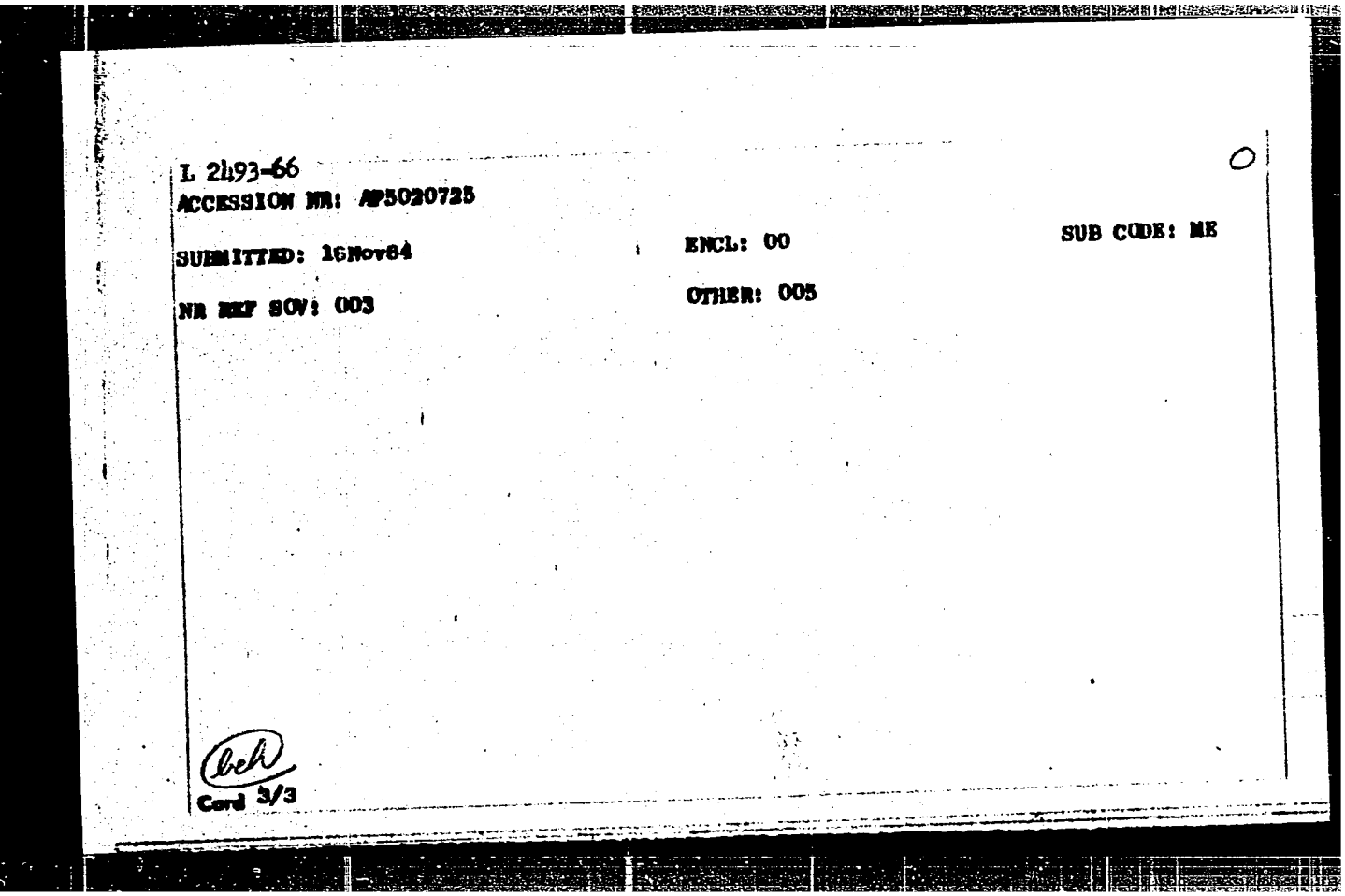
field was that for transition from region II to region III discussed in the preceding paper. When the magnetic field increased through the critical value the plasma density suddenly decreased, the microwave noise suddenly increased, and oscillations of the plasma column were observed with the rotating mirror. The critical magnetic field strength in helium plasmas increased with rising gas pressure from 1000 Oe at 10^{-4} mm Hg to about 1600 Oe at 2×10^{-3} mm Hg. There was no anomaly in the electron temperature at the critical field. These results are compared with the theory of F.Hoh (Phys. Fluids, 6, 1184, 1963), and it is shown that the magnetic field strength at onset of anomalous diffusion is an order of magnitude less than the theory predicts. It is suggested that a turbulent state with a broad spectrum of low-frequency oscillations may arise from the interaction between the plasma and the oscillating electron beam. The authors hope further to pursue their studies of these phenomena. "In conclusion, the authors express their gratitude to K.D.Sinel'nikov for discussing the results and to B.I.Kononenko and M.Ya.Nadnichenko for assisting with the work." Orig. art. has: 3 formulas and 4 figures.

ASSOCIATION: none

Card 2/3



L 2493-66

ACCESSION NR: AP5020725

SUBMITTED: 16Nov64 ENCL: 00 SUB CODE: ME

NR REF SOV: 003 OTHER: 005

Card 3/3

S/051/62/012/005/001/021
E032/E514

AUTHORS: Pavlichenko, O.S. and Dushin, L.A.

TITLE: A spectroscopic study of the plasma in a pulsed Phillips discharge

PERIODICAL: Optika i spektroskopiya, v.12, no.5, 1962, 541-545

TEXT: The authors report oscillograms of the intensity of the H_α line of hydrogen excited in a pulsed cold-cathode discharge in a magnetic field (Phillips ionization gauge). The apparatus employed is shown in Fig.1 (1 - cathode, 2 - anode, 3 - field coils, 4 - condenser, 5 - ignitrons, 6 - capacitors supplying tube and coils, 7 - triggering circuit, 8 - delay line, 9 - YM-2 (UM-2) monochromator, 10 - photomultiplier, 11 - cathode follower, 12 - oscilloscope). By discharging a 50 μF capacitor bank (charged to 2-4 kV) it was possible to produce 2-4 kA pulses 60-70 μsec long between the electrodes. The discharge was produced in a glass tube initially pumped down to about 10^{-7} mm Hg. The longitudinal magnetic field was produced by discharging a capacitor bank through the field coils. The length of the magnetic field "pulse" was 2700 μsec

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TYKOV, V.G.; STEPANENKO, I.A.; PUSHIN, L.A.; MIKOLSKIY, A.K.; PAVLICHENKO, G.S.; TOLOK, V.T.

Spectroscopic study of plasma [illegible]. Zhur. tekh. fiz. 35 no.1:50-63 Ja '65. (MIRA 18:1)

L 10237-66 EWT(1)/ETC/EPF(n)-2/EWG(m) IJP(c) AT/GS

ACC NR: AT5028595 SOURCE CODE: UR/0000/65/000/000/0526/0532

44,55 44,55 44,55 44,55

AUTHOR: Dushin, L. A.; Kononenko, V. I.; Pavlichenko, O. S.; Nikol'skiy, V. K.; Brzhechko, L. V.

44,55

ORG: none

95
B+1

TITLE: Microwave and spectroscopic investigation of an electrodeless induction discharge

SOURCE: Konferentsiya po fizike plazmy i problemam upravlyayemogo termoyadernogo sinteza. 4th, Kharkov, 1963. Fizika plazmy i problemy upravlyayemogo termoyadernogo sinteza (Physics of plasma and problems of controllable thermonuclear synthesis); doklady konferentsii, no. 4. Kiev, Naukova dumka, 1965, 526-532

21,44,55 21,44,55

TOPIC TAGS: plasma diagnostics, plasma pinch, microwave plasma, microwave spectroscopy, gas discharge spectroscopy

ABSTRACT: Plasma heating experiments where conditions favorable to strong microwave emission occur are described. The apparatus used for production of microwaves is a theta-pinch device with maximum mirror magnetic field of $1.3 \cdot 10^{-6}$ a/m having a period of $8.6 \cdot 10^{-6}$ sec and employing high frequency preionization. Microwave and optical diagnostics were used to determine the plasma parameters. Three microwave signals with a wide range of frequencies (9.4 Gc, 37 Gc, 140 Gc) were used to probe the

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plasma outside and within the theta coil region. It was established using microwave propagation perpendicular to the plasma (and magnetic field) axis that a plasma density higher than 2.4×10^{14} cm^{-3} exists for 5.0×10^{-5} sec. Density vs time plots are given for different capacitor voltages (driving the theta-pinch discharge). The measurements indicate that the plasma density outside the coil region decreases in accordance with a diffusion mechanism while the plasma inside the theta-coil region decreases due to some more rapid loss mechanism. The spectral measurements show that the hydrogen is highly ionized, radiating only at magnetic field minima. The impurity lines also appear at these minima, while at other times continuum radiation dominates. The charged-particle densities are shown to increase with the initial pressure as determined from the line width of H_β. In addition, electron temperature history was determined from observation of singlet and triplet lines of H_β which was

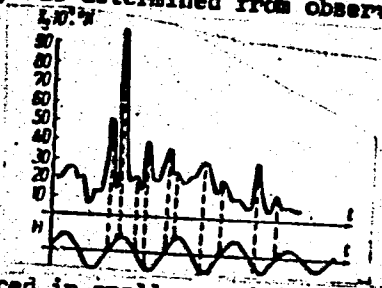
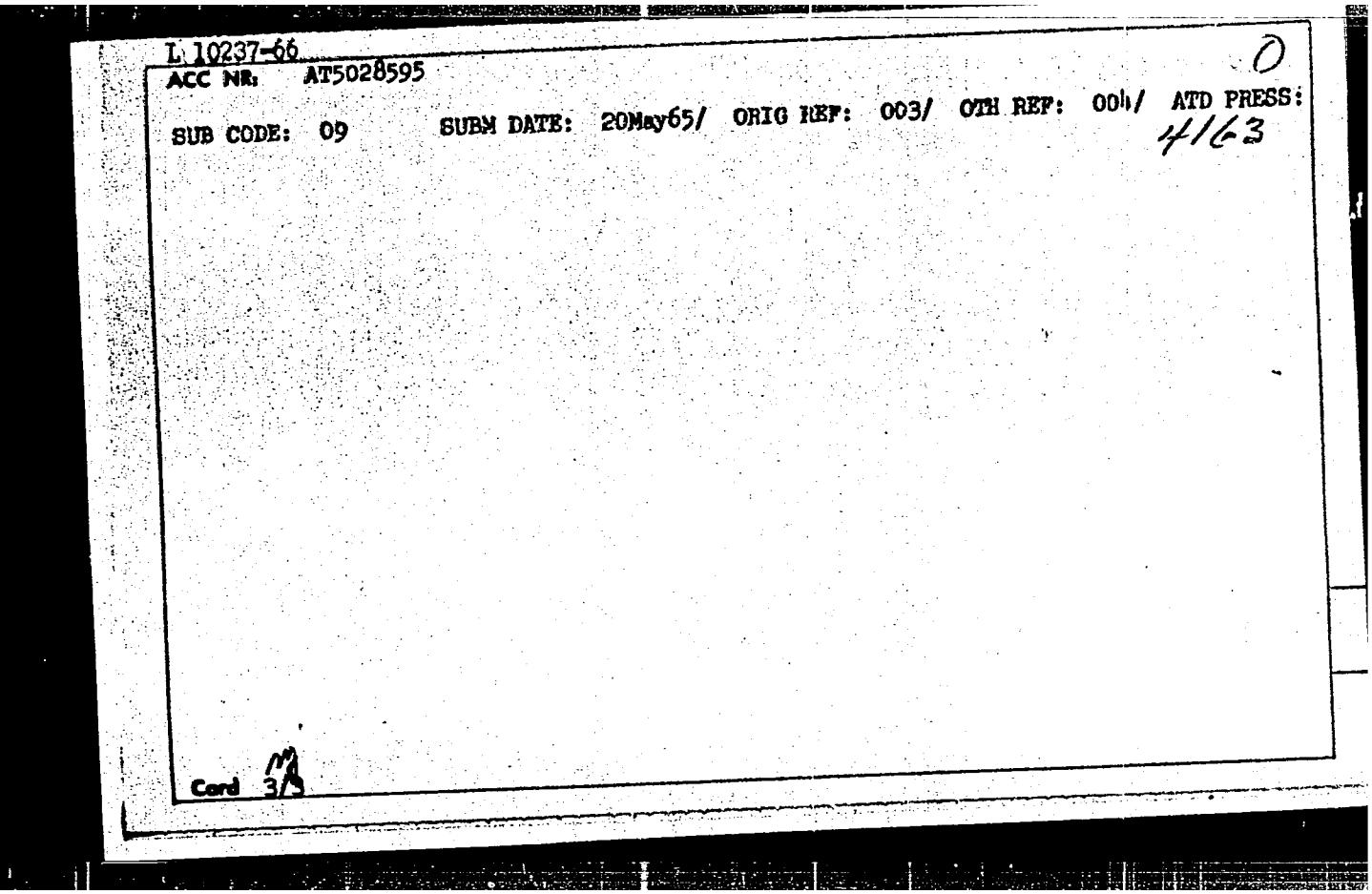


Fig. 1. Variation of T_e with time
$p = 1.3$ N/m^2 $U = 20$ kv

introduced in small quantities. Electron temperature (T_e) peaks occurred during both maximum electric and maximum magnetic fields (Fig. 1). Both microwave and spectral measurements were found to be consistent. Orig. art. has: 9 figures. [14]



L 10237-66
ACC NR: AT5028595 O

SUB CODE: 09 SUBM DATE: 20May65/ ORIG REF: 003/ OTH REF: 004/ ATD PRESS: 4163

Card 3/3

L 13449-66 EWT(1)/EWT(m)/ETC(F)/EPF(n)-2/EWG(m)/EWP(t)/EWP(b) IJP(c) JD/AT

ACC NR: AP5002441 SOURCE CODE: UR/0057/65/035/012/2185/2188

AUTHOR: Shvets, O.M.; Ovchinnikov, S.S.; Tarasenko, V.F.; Pavlichenko, O.S.; Tolok, V.T.

ORG: none

TITLE: Production of a dense plasma in a metallic chamber by a high frequency technique 21,44,55

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 12, 1965, 2185-2188

TOPIC TAGS: plasma generator, plasma electron temperature, plasma density, plasma heating, high frequency discharge, magnetic field

ABSTRACT: Dense (up to 2 x 10^{14} cm^{-3}) plasmas were produced in a 12.5 cm diameter, 2 m long cylindrical copper chamber of 2.5 mm wall thickness with glass ends by exciting two 5 cm diameter, 7 cm long aluminum electrodes located 1 m apart on the axis of the chamber at 1.82 MHz with a 100kW oscillator. A longitudinal magnetic field up to 2.5 kOe was provided by a suitable winding. The experiments are preliminary to a projected investigation of plasma heating by ion cyclotron waves. The plasma densities were determined from the Stark broadening of H β, observed with a 1.3 m focal length spectrometer, and from reflection of 3 cm and 0.8 cm wavelength microwaves. Electron temperatures were determined from the intensity ratio of triplet to singlet helium lines. Plasma densities were also determined from the intensity of H β on the assumption that excitation is entirely by electron impact; the densities

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UDC: 533.9.07

L 13449-66

ACC NR: AP6002441

so determined were in agreement with the values obtained from microwave reflection. Owing to the rectifying action of the plasma, the electrodes became negatively charged to a potential of several kilovolts; this gave rise to an oscillatory motion of the electrons near the axis of the chamber between the electrodes, as a result of which the dense plasmas were produced. The dense plasma was confined to a 2 cm diameter region about the axis; at 3 cm from the axis the plasma density was less by an order of magnitude. The plasma density did not depend strongly on the magnetic field strength. The maximum observed plasma density was 2×10^{14} cm^{-3} at a gas pressure of 3×10^{-3} mm Hg. The plasma density remained above 10^{13} cm^{-3} for 3.6 millisec, and above 10^{12} cm^{-3} for 17 millisec. Electron temperatures of 40 to 50 eV were observed. Advantages of the described technique are the low input impedance, which eliminated difficulties associated with high voltage rf systems, and the good coupling between the electrodes and the plasma. Orig. art. has: 2 formulas and 5 figures.

SUB CODE: 20 SUBM DATE: 18Feb65 ORIG. REF: 001 OTH REF: 002

Card 2/2

L 01279-67 EWT(1) IJP(c) AT
ACC NR: AT6031154 SOURCE CODE: UR/3137/66/000/197/0003/0011

AUTHOR: Dushin, L. A.; Kuznetsov, Yu. K.; Pavlichenko, O. S. 56 53

ORG: none 21 21 B+1

TITLE: Drift instability of a discharge plasma with oscillating electrons

SOURCE: AN UkrSSR. Fiziko-tekhnicheskiy institut. Doklady, no. 197/P-063, 1966. Dreyfovaya neustoychivost' plazmy razryada s ostsilliruyushchimi elektronami, 3-11

TOPIC TAGS: discharge plasma, plasma oscillation, drift instability, oscillating electron, drift dissipation

ABSTRACT: A study is made of previously observed increases in charged particle flux across a magnetic field, created by the discharge of oscillating electrons which produce intense low-frequency plasma oscillations. A study of these oscillations, and their genesis and frequency of occurrence as a function of plasma parameters, suggests that they are caused by the drift-dissipation instability of nonhomogeneous plasma. The phenomenon had been earlier analyzed theoretically by

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L 04744-67 EWT(1) SOURCE CODE: UR/0000/65/000/000/0204/0216

ACC NR: AT6020452 (N)

AUTHOR: Pavlichenko, O. S.; Dushin, L. A.; Kuznetsov, Yu. K.; Adamov, I. Yu.

ORG: none

TITLE: Instability of plasma discharge with oscillating electrons

SOURCE: AN UkrSSR. Vzaimodeystviye puchkov zaryazhennykh chastits s plazmoy (Interaction of charged particle beams with plasma). Kiev, Naukova dumka, 1965, 204-216

TOPIC TAGS: plasma discharge, plasma instability, plasma interaction, plasma diffusion

ABSTRACT: The experiments described in the present work revealed that cyclotron harmonics found in radiation from plasma with oscillating electrons and radiations induced by plasma oscillations are of a non-thermal nature and that their source is plasma microinstability. Two types of experiments were performed: observation of microwave emission from the plasma, and determination of the diffusion rates in the plasma. The experiments were performed on a discharge column (hydrogen or helium) of relatively high density (10^{12} cm^{-3}) and high temperature (50 ev). The experimental results are described and analyzed to show the importance of the beam-plasma interaction. It is shown that although the instability is microscopic in nature, it cannot be explained in terms of the model of F. C. Hoh (*Phys. Fluids*, 1963, 6, 1184). The complex relation-

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L 04749-67

ACC NR: AT6020452

ship between the parameters of oscillating electron beams and the plasma gives only qualitative answers at present, but does not allow formulation of the rules for the observed anomalous diffusion. The authors also include a review of the most important experimental and theoretical results dealing with this problem. Orig. art. has: 11 figures, 3 formulas.

SUB CODE: 20/ SUBM DATE: 11Nov65/ ORIG REF: 007/ OTH REF: 007

Card 2/2 3B

L 40922-66 EWT(1) IJP(c) GD/AT

ACC NR: AT6020564 SOURCE CODE: UR/0000/65/000/000/0026/0038

AUTHOR: Shvets, O. M.; Ovchinnikov, S. S.; Tarasenko, V. F.; Erzhechko, L. V.; Pavlichenko, O. S.; Tolok, V. T.

58
57
B+1

ORG: none

TITLE: Study of the conditions for generating a dense plasma in a metal chamber and the high frequency heating of plasma

SOURCE: AN UkrSSR. Vysokochastotnyye svoystva plazmy (High frequency properties of plasma). Kiev, Naukovo dumka, 1965, 26-38

TOPIC TAGS: heated plasma, plasma density, plasma generator, argon plasma

ABSTRACT: The generation of plasma in a metal container and the properties of such a plasma were investigated. A diagram of the experimental apparatus is shown. Up to 100 kw can be generated at frequencies of $1.82 \cdot 10^6$ Hg. The magnetic field which can be produced in several configurations, has a maximum value of $2 \cdot 10^5$ A/m. The plasma diagnostics consist of: 1) voltage monitoring across the plasma column, which determines the coupling between the generator and the plasma load; 2) spectral measurements of plasma ions and impurity lines, giving the density and temperature of the ions; and 3) magnetic probe to determine the field distributions. A plasma density of $2 \cdot 10^{14}$ cm^{-3} and a temperature of $4 \cdot 10^5$°K were attained. Another set of experiments

Card 1/2

ACC NR: AP6033414 SOURCE CODE: UR/0057/66/036/010/1800/1807

AUTHOR: Grigorenko,V.G.; Dushin,L.A.; Pavlichenko,O.S.; Skibenko,A.I.

ORG: none

TITLE: Anomalous decay of the plasma of an oscillating electron (PIG reflex) discharge in a strong magnetic field

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 10, 1966, 1800-1807

TOPIC TAGS: hydrogen plasma, gas discharge, plasma decay, electron oscillation, Penning discharge, plasma magnetic field, plasma stability, turbulent plasma

ABSTRACT: The authors have investigated the decay of the plasmas from pulsed PIG reflex discharges in hydrogen at from 0.001 to 0.1 mm Hg in magnetic fields up to 7 kOe. The 6 cm diameter aluminum cathodes were mounted 108 cm apart and 13 cm from ring anodes in a 10 cm diameter glass discharge tube. The plasma was excited by the up to 4 kV discharge of a 200 microfarad capacitor, the duration of the current pulse being 150 microsec. The plasmas were investigated with an 8 mm wavelength microwave interferometer. From the interferometer data the rate of decay of the plasma was obtained as a function of the magnetic field strength, the discharge voltage, and the hydrogen pressure. The radial distribution of the plasma density was also measured. The results are presented graphically and are discussed. At magnetic field strengths below 1 kOe the plasma decayed in accordance with the usual diffusion theory. The rate of plasma decay was minimum at a critical magnetic field strength (above 1 kOe)

Card 1/2 UDC: 533.9

ACC NR: AP6033414

which was independent of the plasma density but decreased with increasing gas pressure. The signal of the microwave interferometer was found to be modulated at a frequency which decreased with time from about 2 MHz to 0.4 MHz. It is concluded that the anomalously rapid decay of the plasma is due to large scale drift instabilities that develop during the current pulse. These instabilities also lead to a turbulent condition of finite duration which the authors intend to investigate. Orig. art. has: 5 formulas and 10 figures.

SUB CODE: 20 SUBM DATE: 21Oct65 ORIG. REF: 011 OTH REF: 001

Card 2/2

L 05917-67 EWT(1) IJP(c) AT

ACC NR: AR6032293 SOURCE CODE: UR/0275/66/000/007/A023/A023

46
B

AUTHOR: Shvets, O. M.; Ovchinnikov, S. S.; Tarasenko, V. F.; Brzhechko, L. V.; Pavlichenko, O. S.; Tolok, V. T.

TITLE: Investigation of conditions for the production of a dense plasma in a metal chamber and for its h-f heating

SOURCE: Ref. zh. Elektronika i yeye primeneniye, Abs. 7A167

REF SOURCE: none

TOPIC TAGS: dense plasma, particle density, charged particle density, cyclotron ion wave

ABSTRACT: Conditions for producing a dense plasma on a "VIKHR'" system by means of high-powered frequency oscillators were investigated. Charged particle density was determined on the basis of the Stark widening of the line H_β and by SHF methods. Electron temperature was determined by the intensity ratios of the He lines. It was found that the density of the plasma produced in a metal chamber reached $\sim 10^{13}$ cm^{-3} at an electron temperature of 40 ev. Further action of

UDC: 537.575

Card 1/2

PAVLICHENKO, V. [Pavlychenko, V.]

Rural building deserves qualified workers. Sil'.bud. 11 no.6:22 Je '61. (MIRA 14:7)

1. Direktor Kiyevskoy oblastnoy shkoly masterov sel'skokhozyaystvennogo stroitel'stva.
(Kiev Province—Building trades—Study and teaching)

TOPCHIYEV, A.V., akademik; PAVLICHENKO, V.P.

Against the growing threat of thermonuclear war. Vest. AN SSSR 32 no.11:100-104 N '62. (MIRA 15:11)
(Pugwash conference of nuclear scientists)

PAVLICHENKO, V.S., kand. tekhn. nauk; POPOV, V.S., kand.tekhn. nauk, retsenzent

[Resistance welding of parts with a closed contour] Kontaktnaia svarka izdelii amknutoi formy. Moskva, Mashinostroenie, 1964. 112 p. (MIRA 17:8)

PAVLICHENKO, V.S.

Resistance welding of pipe with high-frequency currents. Avtom. svar. 18 no.10:67-68 O '65. (MIRA 18:12)

1. Ob"yedineniye "Stal'chugunlitprom".

S/125/61/000/004/006/013
A161/A127

AUTHORS: Kislyuk, F. I., Pavlichenko, V. S. (Moscow)

TITLE: Investigating the possibility of ultrasonic flaw detection in circular welds on thin-wall pipelines produced by resistance welding

PERIODICAL: Avtomaticheskaya svarka, no. 4, 1961, 40 - 46

TEXT: Results are presented of an experimental investigation conducted on segments cut from butt joints in 325 x 8 and 508 x 9.5 mm steel pipes produced in field welding with mobile KTCA (KTSA) welders. Ultrasonic flaw detection has not yet been used in the USSR in field welding of pipelines. Reference is made to an extensive use of this inspection method abroad, for pipelines joined by arc welding [Ref. 5: A. G. Barkov, Pipeline Field Welding and Quality Control Methods, "Petroleum Engineer", v. 30, no. 5], and to experiments at TsNIITMASh with resistance-welded butt joints in pipes with 35 mm wall thickness [Ref. 1: A. S. Gel'man et al., "Zavodskaya laboratoriya", no. 5, 1954]. The subject experiments were carried out with a УЗД-7Н (UZD-7N) flaw detector. A prismatic feeler with a 50° beam angle was chosen since it permits the detection of defects at 20 - 60 mm distance from the feeler edge. Feelers with 40° angle proved not suitable because of

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Investigating the possibility of ultrasonic flaw...

the protruding joint and detection of insignificant defects (1 - 2 mm^2) not affecting the serviceability of the butt. The necessary acoustic contact between the feeler and the pipe surface was produced by a thin oil film. The flaws were located by the amplitude of pulses on the screen of an electron beam tube. "Siemens II" and УЗД-НИИМ-5 (UZD-NIIM-5) ultrasonic flaw detectors were also used for comparison, and the UZD-NIIM-5 proved best suitable for field use. Its advantages over the other two flaw detectors are: 1) It operates on both a.c. and d.c. and low voltage (12 v); 2) In addition to the electron beam tube screen it has two more indicators (sound and light), which facilitates inspection; 3) Its electronic depth meter indicates the depth of flaws; 4) The absence of an initial pulse on the tube screen makes detection easier. Conclusions: 1) The preliminary experiments have proven that ultrasonic flawdetection is possible in principle for 8 - 10 mm thick welds produced by resistance flash welding. The presence of burrs and a reinforced seam cause difficulties, for signals reflected from the reinforcement may be understood as signals reflected from defects. 2) Cracks, craters, oxide flaws etc. are detected, but no defects of the kind producing no cavities (burns, premature crystallization), and then the ultrasonic detection data contradict the results of mechanical tests. 3) The entire joint can be sounded through with multiple reflec-

tion of the pulse. 4) Studies have to be continued and the inspection device to be improved. [Abstracter's note: No description of the ultrasonic equipment is included]. There are 5 figures, 2 tables and 8 references: 7 Soviet-bloc and 1 non-Soviet-bloc. The one reference to an English-language publication reads as follows: A. G. Barkov, Pipeline Field Welding and Quality Control Methods, "Petroleum Engineer", v. 30, no. 5)

SUBMITTED: October 8, 1960

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PAVLICHENKO, V.S., inzh.

New flowsheet for the resistance welding of automobile wheel rims.
Svar.proizv. no.9:11-13 S '60. (MIRA 13:8)
(Electric welding) (Wheels--Welding)

PAVLICHENKO, V.S., inzhener

Carbon-arc hard facing of current-carrying parts of butt welding machines. (MLRA 8:9)

1. Chelyabinskiy kuznechno-pressovyy zavod imeni I.V. Stalina.
(Hard facing)

GEL'MAN, A.S.; prof., doktor tekhn.nauk; PAVLICHENKO, V.S., inzh.

Effect of active and inductive resistance in butt-welding machines on the process of flash welding. Svar. proizv. no.4:1-6 Ap '61. (MIRA 14:3)

1. TSentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya.

(Electric welding)

PAVLICHENKO, V. S. Cand Tech Sci -- " Study of butt-contact flash welding of ~~articles~~ with a closed contour ~~by means of flashing off~~." Mos, 1961 (Min of Higher and Secondary Specialized Education RSFSR. Mos Order of Lenin and Orders of Labor Red Banner Higher Tech School im N. E. Bauman). (KL, 4-61, 199)

DZHAKUPBAYEV, A.N.; DZHANSUGUROV, S.I.; PAVLICHENKO, V.S.

Electric thermometry in mines. Izv. AN Kazakh. SSR. Ser.gor.dela no.2: 123-124 '60. (MIRA 13:10)

(Thermometry)

GRIN', Yu.T.; PAVLICHENKOV, I.M.

Collective gyromagnetic ratio for odd atomic nuclei. Zhur. eksp.i teor.fiz. 41 no.3:954-958 S '61. (MIRA 14:10)
(Nuclei, Atomic)

L 13629-63 IDS

ACCESSION NR: AP3001131 S/0056/63/044/006/2001/2006

AUTHOR: Pavlichenkov, I. M.

TITLE: Moments of inertia of Beta and Gamma vibrational bands

SOURCE: Zhurnal eksper. i teor. fiziki, v. 44, no. 6, 1963, 2001-2006

TOPIC TAGS: moments of inertia, Beta vibrational bands, Gamma vibrational bands, microscopic model, forced-rotation model

ABSTRACT: The difference between the moments of inertia of the Beta and Gamma vibration bands and the ground state is calculated on the basis of the microscopic oscillation model. It is shown that the difference J sub K - J sub 0 reverses sign as a result of the presence of pairing in the system, on the one hand, and as a result of violation of the adiabaticity of the Beta and Gamma oscillations in the middle of the region of deformed atomic nuclei, on the other. The oscillations for a system of particles of one kind with pairing and residual quadrupole-quadrupole interaction is described on the basis of the microscopic model, while the rotation is regarded within the framework of the forced-rotation model. The result for oscillations agrees in the adiabatic approximation with the phenomenological calculations made with the Hamiltonian of O. Bohr. "In conclusion, the author is grateful to Yu. T. Grin."

Card 1/2 ASSN: none

GRIN', Yu.T.; PAVLICHENKOV, I.M.

Nonadiabatic corrections to the rotation spectrum of atomic nuclei.
Zhur. eksp. i teor. fiz. 43 no.2:465-472 Ag '62. (MIRA 16:6)
(Molecular rotation) (Angular momentum)

PAVLICHENKOV, I.M.

Moments of inertia of β- and γ-vibrational bands. Zhur. eksp. i teor. fiz. 44 no.6:2001-2006 Je '63. (MIRA 16:6)

(Moments of inertia)
(Quantum theory)

L 16510-65 EWT(1)/EWT(m) DIAAP/IJP(c)/SSD/AFWL
ACCESSION NR: AP5000343 S/0056/64/047/005/1847/1854

AUTHOR: Grin', Yu. T.; Pavlichenkov, I. M. B 21

TITLE: Rules for the intensities of electromagnetic transitions in deformed nuclei 19

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 47, no. 5, 1964, 1847-1854

TOPIC TAGS: electromagnetic transition, deformed nucleus, selection rule

ABSTRACT: To ascertain whether the deviations from the Alaga rule can be caused by factors other than the Coriolis forces in the deformed nucleus, the authors compare experimental data with proposed theoretical formulas, using concrete values of structure-dependent parameters calculated on the basis of existing nuclear models, and determine the ratios of the intensity of the electromagnetic single-

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ACCESSION NR: AP5000343

particle transitions in deformed odd nuclei. It is shown that the corrections to the wave functions of the nucleus, due to the coupling between the rotation and the internal motion (Coriolis force), can explain the observed deviations from the Alaga rule and the asymmetry in the behavior of the electric dipole transitions with $\Delta K = 0$ and $\Delta K = \pm 1$. Comparison of the developed theory and experiments show that the observed deviations from the Alaga rule are essentially due to the Coriolis forces. The limits of applicability of the simple phenomenological description developed in this paper depend on the accuracy of the experiments and of the data reduction. "The authors express deep gratitude to A. M. Demidov for help in the selection and analysis of the experimental data." Orig. art. has: 12 formulas and 4 tables.

ASSOCIATION: None

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